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EXECUTIVE SUMMARY

Why did the Bay Area need to prepare a new ozone plan and what are the requirements?

Over the past several years, the Bay Area has moved in and out of attainment for the federal one-hour ozone standard. In 1991, the U.S. Environmental Protection Agency (U.S. EPA) classified the Bay Area as a “moderate” nonattainment area for the national one-hour ozone standard (of 0.12 parts per million), with an attainment date of 1996. From 1990 to 1994, the Bay Area attained the standard. In late 1994, we forwarded a request to U.S. EPA to redesignate the Bay Area as attainment, along with a maintenance plan describing how the Bay Area would stay in compliance. In May 1995, U.S. EPA approved the maintenance plan and redesignated the Bay Area as attainment.

Almost immediately following the redesignation to attainment, the Bay Area had hot, stagnant weather that led to high ozone levels -- 11 days above the standard in 1995 and 8 days in 1996. On July 10, 1998, in response to the numerous violations, U.S. EPA redesignated the Bay Area back to nonattainment and established a new attainment date of November 15, 2000. In the *Federal Register* notice of action (63 FR 37258), U.S. EPA required a revision to the State Implementation Plan (SIP) by June 15, 1999 that was to include: a 1995 emission inventory for volatile organic compounds (VOC) and nitrogen oxides (NO_x); an assessment of the emission reductions needed to attain the ozone standard by 2000, using available data and technical analyses; a control strategy sufficient to attain the standard by 2000; and contingency measures.

What is the relationship of the Bay Area Plan to the California SIP?

The Bay Area Plan is a SIP revision and will become part of the California SIP upon approval by U.S. EPA. The California SIP contains all of the elements of the state and local programs to attain and maintain the national ambient air quality standards. These elements include the monitoring program, emission inventory, modeling, plans for attainment and progress, measures to reduce emissions, permitting programs, and other enforcement mechanisms to ensure that the necessary reductions are achieved. Control strategies may include both existing rules and regulations, as well as commitments for future measures to be adopted by air and transportation agencies. For ozone, these strategies focus on reducing emissions of the two chemical precursors -- VOC and NO_x. Once a local SIP revision is adopted by the Air Resources Board (ARB) and approved by U.S. EPA, the elements become federally enforceable.

Does the recent court decision on the new federal standards affect the Bay Area Plan?

No. Although U.S. EPA established a new ozone standard of 0.08 ppm over eight hours in 1997, the one-hour ozone standard (which was not affected by the court decision) continues to apply until an area attains that standard. On May 14, 1999, a three-judge panel of the U.S. Court of Appeals for the District of Columbia ruled that U.S. EPA cannot enforce the eight-hour ozone standard. The ruling may be overturned, or U.S. EPA may re-establish the standard with a different basis. As a practical matter, the new measures in the Bay Area Plan are needed to meet the current federal one-hour ozone standard, as well as California's own more health-protective ozone standard which is comparable in health protection to the federal eight-hour ozone standard.

Which agencies developed and adopted the Bay Area Plan?

The Bay Area Air Quality Management District (Bay Area District), together with its co-lead agencies, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), prepared the *San Francisco Bay Area 1999 Ozone Attainment Plan for the 1-Hour National Ozone Standard* (Bay Area Plan). The Bay Area District, ABAG, and MTC adopted the Plan on June 16, 17, and 23, respectively.

What is the technical basis for the attainment assessment?

The attainment assessment in the Bay Area Plan is based on past photochemical modeling work. The Bay Area District staff relied on modeling of a September 1989 ozone episode at the peak site in Livermore. Using the projected NO_x emission reductions for 1995 to 2000 from existing measures only, the Bay Area District staff determined the level of VOC reductions needed to bring Livermore into attainment with the standard, based on the 1989 modeling. The attainment assessment is based on a 1995 emissions inventory of 562 tpd VOC and 626 tpd NO_x, grown to the year 2000. The Bay Area District did not include a detailed 2000 emissions inventory in the Plan, but provided us with a copy of the complete inventory that underlies the attainment assessment. We are providing the year 2000 inventory for informational purposes since U.S. EPA did not require its submittal as part of this SIP revision.

What emission reductions are needed in the Bay Area for attainment?

The attainment assessment shows that if NO_x emissions are reduced to 534 tpd by June 1, 2000, then VOC emissions must be reduced to 434 tpd to attain the standard. Existing adopted measures provide all of the 92 tpd NO_x reductions. Local, state, and federal measures already in the SIP emissions baseline for 2000 provide 117 tpd of the 128 tpd needed VOC reductions, leaving 11 tpd of additional VOC reductions needed for attainment. The VOC baseline emissions reflect new VOC reductions of 13.5 tpd that the District commits to achieve through permitting and enforcement actions to increase the effectiveness of refueling controls at service stations.

What new stationary source control measures does the Bay Area Plan include?

The Bay Area Plan identifies 10 additional stationary and area source control measures to meet the VOC emissions target. Five of the control measures are adopted, but not yet incorporated into the SIP – these existing measures provide 4.6 tpd of VOC reductions. The District is committing to adopt new controls for polystyrene manufacturing, organic liquid storage, and gasoline dispensing facilities, as well as two new measures affecting aeration of contaminated soils – these new measures will yield 6.6 tpd of VOC reductions.

What new mobile source control measures does the Bay Area Plan include?

The Bay Area Plan relies on an ARB measure for electric golf carts that had not been included in the SIP emissions baseline, plus two voluntary local measures. The bulk of mobile measures with benefit between 1995 and 2000 are already adopted and already reflected in the SIP baseline – e.g., cleaner passenger vehicles, trucks, and off-road equipment, as well as cleaner gasoline. Such mobile source measures account for 90 percent of the total VOC plus NO_x reductions in the Bay Area between 1995 and 2000. Mobile measures typically show increasing benefits after implementation as fleet turnover expands the number of cleaner vehicles.

Although most of the mobile source emission reductions come from technological improvements in engines and fuels, transportation control measures (TCMs) also benefit air quality by reducing motor vehicle use or activity. Twenty-eight of these measures were included in the Bay Area's 1994 maintenance plan and are almost complete. The Bay Area Plan proposes to withdraw four TCMs from the Ozone SIP because they are either permanent (e.g., Guadalupe light rail line and BART Colma station) or reduce only carbon monoxide emissions. The remaining TCMs consist of new carpool lanes, signal timing, freeway incident management, and increased state gas tax and bridge tolls.

The Bay Area Plan also contains two voluntary mobile source measures: Spare the Air Program and Low Emission Alternatively Fueled Vehicles and Infrastructure. These programs are expected to reduce both VOC and NO_x emissions. However, the Bay Area Plan claims no emission reductions from these measures because of concerns about a U.S. EPA guidance policy that calls for regulatory “backstops” if voluntary measures are used for SIP credit.

Does the Bay Area Plan affect transportation conformity?

Yes. The Clean Air Act requires transportation plans to conform to air quality plans. Because the attainment assessment in the Bay Area Plan relies on lower emissions from on-road motor vehicles for the year 2000 than in the previous maintenance plan, the emissions budget for transportation conformity must be updated. The differences are due to changes in the emissions models and from implementation of additional controls. The emissions budget is derived from the 1995 emissions inventory in the Bay Area Plan, after accounting for the effects of growth and control. The new budget for transportation conformity is 175 tpd VOC and 247 tpd NO_x, and will become effective upon U.S. EPA's finding of adequacy.

Does the Bay Area Plan include adequate reductions, given the violations of the standard in 1998?

The numerous violations of the standard in 1998 is evidence of the strong influence that weather in the Bay Area has on air quality. For areas close to the ozone standard, weather variations can make the difference between meeting and exceeding the standard in a particular year, despite steadily declining emissions. The violations in 1998 are troublesome, since the majority of the emission reductions projected to result in attainment had already been achieved. These violations emphasize the need to continue reducing emissions in the Bay Area until the standard can be attained under all weather conditions. The District's commitments in the Bay Area Plan for additional emission reductions (6.6 tpd VOC from new measures and 13.5 tpd VOC from increased enforcement at service stations) will continue progress toward this goal.

While there is technical uncertainty as to the specific reductions needed, we believe the strategies in the Bay Area Plan are a reasonable approach, given the twelve-month timeframe to develop and implement measures, and the lack of an up-to-date modeling analysis. However, new local, state, and federal measures need to be pursued to ensure maintenance of the federal one-hour ozone standard and attainment of the more health-protective state ozone and particulate standards -- not just in the Bay Area, but also in downwind communities affected by Bay Area pollution.

Can the Bay Area attain the standard by November of 2000?

Not officially, because three clean years are needed to attain the standard. The Bay Area Plan is designed to prevent violations of the standard in the 2000 ozone season. If the Bay Area succeeds in meeting this goal, the region would still need another two years of monitoring data without violations to be considered in attainment. The Clean Air Act allows for two, one-year extensions of the attainment deadline; the Bay Area Plan assumes the District will request at least one extension.

Would the Bay Area Plan be expected to cause a significant adverse environmental or economic impact?

No. As required under the California Environmental Quality Act (CEQA), the Bay Area District evaluated the potential environmental impacts of the Plan and found that the control measures will not result in significant adverse environmental effects. The Bay Area District Board approved a Negative Declaration as required by CEQA for the Bay Area Plan. ARB staff concurs with the District's findings.

Is the Bay Area Plan consistent with federal requirements and approvable as a SIP revision?

Yes. The Plan contains the required 1995 emission inventory for VOCs and NO_x, an attainment assessment, a control strategy projected to attain the standard by 2000, contingency measures, and a revised emissions budget for transportation conformity. The three co-lead agencies have also met the administrative requirements for public participation in SIP revisions.

What action is the staff recommending to the Board?

ARB staff recommends that the Board approve the Bay Area Plan as a SIP revision, specifically the 1995 emissions inventory for VOC and NO_x, the attainment assessment, the control strategy, the new transportation conformity budget, and the contingency measures. Staff is recommending further that the Board direct the Executive Officer to submit this SIP revision to U.S. EPA as soon as possible.